

REMARKS

Claims 1-7 are pending in the application. Claims 1-3 and 6 are withdrawn from consideration as being directed toward a non-elected invention. In the Office Action of May 31, 2006, the Examiner made the following disposition:

- A.) Objected to claim 5 for an informality.
- B.) Rejected claim 4 under 35 U.S.C. §102(b) as allegedly being anticipated by *Roche*.
- C.) Rejected claim 4 under 35 U.S.C. §102(b) as allegedly being anticipated by *Taguchi, et al.*.
- D.) Rejected claims 4, 5, and 7 under 35 U.S.C. §102(b) as allegedly being anticipated by *Watanabe, et al.*
- E.) Rejected claims 4, 5, and 7 under 35 U.S.C. §102(b) as allegedly being anticipated by *Miida*.

Applicants respectfully traverse the rejections and address the Examiner's disposition below.

- A.) Objected to claim 5 for an informality.

Claim 5 has been canceled.

Applicants respectfully submit the objection has been overcome and request that it be withdrawn.

- B.) Rejection of claim 4 under 35 U.S.C. §102(b) as allegedly being anticipated by *Roche*:

Claim 4 has been canceled.

Applicants respectfully submit the rejection has been overcome and request that it be withdrawn.

- C.) Rejection of claim 4 under 35 U.S.C. §102(b) as allegedly being anticipated by *Taguchi, et al.*:

Claim 4 has been canceled.

Applicants respectfully submit the rejection has been overcome and request that it be withdrawn.

D.) Rejection of claims 4, 5, and 7 under 35 U.S.C. §102(b) as allegedly being anticipated by *Watanabe, et al.*:

Applicants respectfully disagree with the rejection.

Referring to Applicants' Figure 1 as an illustrative example, Applicants' independent claim 7, as amended, claims a method of manufacturing an image pickup device having at least one insulated gate field effect transistor 30 in an output circuit of the image pickup device and that is formed in a substrate 11. The method comprises forming, prior to forming the insulated gate field effect transistor 30, a first diffusion layer 12 of a first conduction type (*e.g.*, p+) in the substrate 11 beneath where the insulated gate field effect transistor 30 is to be formed. The first diffusion layer 12 is formed at a position deeper than a region where a source region 33 and a drain region 34 of the insulated gate field effect transistor 30 are to be formed. The first diffusion layer 12 underlies an entire area of the source region 33 and an entire area of the drain region 34 and is entirely separated from the source region 33 and the drain region 34.

The method further comprises forming, prior to forming the insulated gate field effect transistor 30, a second diffusion layer 13 of the first conduction type having a higher concentration (*e.g.*, p++) than the first diffusion layer 12 in the substrate 11 at a position deeper than the first diffusion layer 12. The second diffusion layer 13 is entirely separated from the first diffusion layer 12 by an intervening layer having a conduction type that is different than the first conduction type.

This is clearly unlike *Watanabe*, which fails to disclose or suggest Applicants' claimed second diffusion layer that is entirely separated from a first diffusion layer by an intervening layer having a different conduction type. Referring to *Watanabe* Figure 2, *Watanabe* discloses a first diffusion layer 21 that is in direct contact with a second diffusion layer 110. Thus, unlike Applicants' claimed invention, *Watanabe* does not form a second diffusion layer that is entirely separated from a first diffusion layer by an intervening layer having a different conduction type. Nowhere does *Watanabe* suggest Applicants' claimed intervening layer.

For at least this reason, *Watanabe* fails to disclose or suggest claim 7.

Claims 4 and 5 have been canceled.

Applicants respectfully submit the rejection has been overcome and request that it be withdrawn.

E.) Rejection of claims 4, 5, and 7 under 35 U.S.C. §102(b) as allegedly being anticipated by *Miida*:

Applicants respectfully disagree with the rejection.

Applicants' independent claim 7 is described above.

Claim 7 is clearly unlike *Miida*, which fails to disclose or suggest Applicants' claimed first diffusion layer is entirely separated from a source region and a drain region. Referring to *Miida* Figure 6, *Miida* discloses a first diffusion layer 15 that is in direct contact with a source region 16 and a drain region 17a. Thus, unlike Applicants' claimed invention, *Miida*'s first diffusion layer 15 is not entirely separated from its source region 16 and drain region 17a.

Further, unlike Applicant's claimed invention, *Miida* fails to disclose or suggest a first diffusion region that underlies an entire area of a source region and an entire area of a drain region. As clearly shown in *Miida* Figure 6, *Miida*'s first diffusion region 15 does not underlie an entire area of its source region 16 and an entire area of its drain region 17a. Instead, portions of *Miida*'s source region 16 and drain region 17a extend beyond *Miida*'s first diffusion layer 15. Accordingly, *Miida*'s device suffers from a high level of dark current that results in white-spot noise in images produced by *Miida*'s device.

For at least these reasons, *Miida* fails to disclose or suggest claim 7.

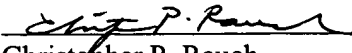
Claims 4 and 5 have been canceled.

Applicants respectfully submit the rejection has been overcome and request that it be withdrawn.

CONCLUSION

In view of the foregoing, it is submitted that claim 7 is patentable. It is therefore submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

Respectfully submitted,

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